

What are the Advantages/Disadvantages of an International Approach?

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MFE ITER/Exp Plenary

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Advantages

Fusion has had a long and successful history of international collaboration with obvious benefits to all partners. We learn/benefit from them as they learn/benefit from us.

The cost of a long-pulse, burning plasma experiment such as ITER is beyond what individual governments are willing to invest in fusion. Only by pooling resources can we, the fusion community, build a facility capable of addressing long-pulse, burning plasma issues.

By joining an international consortium to build a BPX, we can take a more aggressive step, saving both development time and money. Failure to seize such an opportunity would be an affront to the people who support our program, i.e., the US taxpayers.

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Advantages

Joining an international consortium to build a BPX would add funding stability to both the construction and operation phases.

SSC is an example of a domestic science initiative that fell victim to the US political crossfire.

LHC is an example of an international undertaking that is working.

The ITER EDA is an example of the stability provided by international linkages. The US did complete its obligations even though there was intense political pressure to cancel our participation.

The US has fallen behind the EU and JA programs in fusion technology. The international approach would reinvigorate our fusion technology area, attracting new talent into the fusion engineering/technology area.

What are the Advantages/Disadvantages of an International Approach?

Disadvantage

The principal disadvantage is that we, the US fusion community, do not get to call the shots in either the design or operating phases. Key decisions need to be made by negotiation leading to consensus. However,

- Most of the important design decisions for ITER have already been made. In fact, the US had huge input to the process and, to the project's benefit, got what it wanted.
- Physics has no respect for national sovereignty. By forming integrated international task force teams to operate the experiment, national identities will disappear and be replaced by identities tied to the project. The operating program will be structured by the need to extract the physics rather than by parochial national interests.

This is not to minimize the problem, only to point out that the international approach can be made to work. To this end, an early and vigorous US participation in the ITER negotiations is urgently needed!